REMARKS

Applicant has carefully studied the outstanding Official Action mailed on July 10, 2007. This response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

Claims 13-14 stand rejected under 35 USC §112, first paragraph. The Examiner states there is no basis for the negative limitation of the magnetic switch not interacting with the capacitance of the capacitor. Claims 13-14 have been amended to overcome this objection. The negative limitation in the amended claims is clearly disclosed in the original drawings.

Claims 1-4 stand rejected under 35 USC §102(b) for being anticipated by Weiner et al. (US 4612455).

Claims 6-14 stand rejected under 35 USC §103(a) as being unpatentable over Weiner et al. in view of Kotov et al.

The Examiner rebuts Applicant's previous response by saying "Weiner teaches a distance d defines the separation between the identified components in Fig. 4 (col. 4 lines 30-35). Weiner further teaches (col. 4 line 60) increasing or decreasing the distance may be changed in order to change the capacitance. Therefore a distance separates the magnetic switch and capacitor".

Applicant respectfully traverses these rejections, as is now explained in detail.

Examiner asserts there is a separation between the capacitive device and the magnetic switch in Weiner's circuit, by mentioning the distance *d* between winding 62 and shield 64. It is respectfully pointed out that this is an error. If shield 64 *alone* were a capacitive device, then there is room to say there is a distance between what the Examiner calls a magnetic switch and a capacitor. However, shield 64 by itself *is not a capacitive device*. Rather the combination of winding 62 and shield 64 separated by dielectric material 66 forms the capacitor of Weiner. The distance d is the equivalent of the distance between the plates of a classic plate capacitor. Examiner uses the same winding 62 as the magnetic switch. It is impossible to say the magnetic switch is distanced from the capacitor in Weiner when the magnetic switch forms one of the "capacitive plates" of the capacitor.

Quoting from Weiner, col 4 lines 27-44: "As shown in FIG. 4, PFN 60 includes an inner element which is a winding 62 having N_3 turns. PFN 60 also includes an outer element which is a conductive shield 64 around winding 62. Winding 62 and shield 64 are separated by a distance d, and both extend across a length L. The space defined between winding 62

and shield 64 may contain a dielectric material 66, [**please note that the combination of winding 62 and shield 64 separated by dielectric material 66 forms the capacitor**] and winding 62 is supported on a magnetic core 68 of a magnetic modulator… An important feature of PFN 60, as shown in FIG. 4, is that it is a distributed network. In other words, the inductance resulting from the turns or loops of winding 62 is not lumped in a location separate from the capacitance between winding 62 and shield 64 [**again, it is clear the capacitor is the combination of winding 62 and shield 64, not shield 64 alone**]. On the contrary, the inductance of winding 62 interacts with the capacitance of winding 62 and shield 64, resulting in excellent pulse formation, while occupying minimal space."

As previously pointed out, and cited above from Weiner et al., the circuit of Weiner et al. is employed to construct a *distributed* pulse forming network (PFN) rather than a *lumped* PFN in a basic magnetic compression based pulser.

Weiner et al. explicitly states (col. 4, lines 40-48): "An important feature of PFN 60, as shown in FIG. 4, is that it is a distributed network. In other words, the inductance resulting from the turns or loops of winding 62 is not lumped in a location separate from the capacitance between winding 62 and shield 64. On the contrary, the inductance of winding 62 interacts with the capacitance of winding 62 and shield 64, resulting in excellent pulse formation, while occupying minimal space."

In contrast, in the instant invention, the magnetic switch is distanced separate from the capacitor as is clearly seen in Figs. 4, 5 and 7. Claims 13 and 14 have been amended to recite the difference in a different way.

This and other facts lead to some significant differences between Wiener et al. and the instant invention.

In Wiener et al., one significant shortcoming of the circuit is that it requires additional magnetic resetting circuitry. It is derived from the circuits' topology of both the low-voltage and the high-voltage side of the transformer. Put it in other words, the circuit depicted in Fig.3 (as well as the one of Fig. 1) without connecting any other auxiliary circuits can effectively supply only one individual pulse! After the first pulse, the magnetic core does not return to its initial state (of induction level), and the pulser can not function properly. In contrast, in the instant invention, there is no need for additional circuitry as the magnetic resetting is done inherently.

In the circuit of Weiner et al., the PFN (comparable to capacitive storage elements) is connected in series with the HV part of the transformer. In contrast, in the instant invention, the two capacitors are paralleled ***to the transformer***. This is a significant difference. In

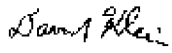
Weiner et al., the load current flows through the transformer's secondary coil, which is characterized by a relatively very high leakage inductance. Practically this limits the pulse transition rates. In contrast, in the instant invention, the load current does not flow through the transformer in any sense. (The Examiner in rejecting claim 6 states that Fig. 3 of Weiner shows the secondary (transformer's) winding connected in parallel to a first capacitor (items 62, 66, 64 in Weiner's Fig. 4. It is respectfully pointed out that this is an error. Fig. 3 shows a series connection of the winding to the "capacitor" – not a parallel connection.)

Comparing Fig. 6 of the instant application and Fig. 5 of Wiener et al., one can see that the slew-rate ratio of the instant invention is very much higher than that of Wiener et al. This emphasizes the dissimilarity in the performances of the two circuits.

Claims 15-16 have been added to recite further patentable features, wherein the magnetic switch is connected in series with the capacitor.

Claims 1-4 and 6-16 are accordingly deemed allowable. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
DEKEL PATENT LTD.



David Klein, Patent Agent
Reg. No. 41,118
Tel 972-8-949-5334
Fax 972-949-5323
E-mail: dekelltd@netvision.net.il